



## ***Requirements Document***

**PRC-RD-SH-10994**

# **Occupational Carcinogen Control**

**Revision 0, Change 2**

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**Project: CH2M HILL Plateau Remediation Company**  
**Topic: Occupational Safety & Industrial Hygiene**

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<h1><b>Administrative Use</b></h1>
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**Occupational Carcinogen Control****Published Date: 01/06/2010****Effective Date: 01/06/2010****CHANGE SUMMARY****AJHA:** N/A**Periodic Review Due Date:** 01/06/2015**HRB Date:** N/A**Validation Date:** N/A**Rev. 0, Chg. 2 PR#:** PRC-10-0008**USQ Screen Number:**

Excluded per Table B-1

**Description of Change**

Editorial change to correct reference documents.

Rev. 0-1, 5/27/09: Editorial changes to align with current CHPRC procedures format, and reference and form numbers and titles.

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### 1.0 PURPOSE

This Level 2 Requirements Document (RD) conveys the requirements necessary to implement an Occupational Carcinogen Control program in accordance with applicable Occupational Safety and Health Administration (OSHA) and U.S. Department of Energy (DOE) order requirements.

### 2.0 SCOPE

These requirements are applicable to CH2M HILL Plateau Remediation Company (CHPRC) Team employees/facilities/operations that purchase or use "occupational carcinogens."

For the purposes of this RD, an "occupational carcinogen" is defined as any chemical used in the workplace which contains a concentration of 0.1% or more of a known or potential carcinogen, as recognized by one or more of the following agencies: the National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC), the American Conference of Governmental Industrial Hygienists (ACGIH) or Occupational Safety and Health Administration (OSHA). "Known or potential carcinogens" include the following:

- NTP "known human carcinogens" and "reasonably anticipated to be human carcinogens", as specified in NTP's most recent "Report on Carcinogens"; (<http://idmsweb/idmsprod/livelink.exe?func=ll&objId=3596076&objAction=browse&sort=name&viewType=1>); and/or
- IARC Group 1, Group 2A, and Group 2B carcinogens, as specified in IARC's most recent evaluations (<http://idmsweb/idmsprod/livelink.exe?func=ll&objId=3596076&objAction=browse&sort=name&viewType=1>); and/or
- Chemicals/substances designated as carcinogens by OSHA in 29 CFR 1910, Subpart Z; and/or
- ACGIH groups A1 and A2 carcinogens, as specified in the most recently published edition of the "ACGIH Threshold Limit Values (TLVs) and Biological Exposure Indices (BEIs)".

These definitions are consistent with the definitions of "carcinogen" contained in PRC-RD-SH-13299, *Hazard Communication*, and with 29 CFR 1910.1200, *Hazard Communication*, requirements regarding carcinogen designation on Material Safety Data Sheets (MSDSs) and labels.

Consumer products containing non-OSHA-regulated occupational carcinogens used in a manner similar to that of normal consumer use and resulting in a duration and frequency of exposure similar to that which consumers experience are exempt from this RD. However, consumer products containing "OSHA-regulated carcinogens" and/or "OSHA-specific carcinogens," are *not* exempt, unless the applicable OSHA standard specifically permits such an exemption.

For the purposes of this RD, "OSHA-regulated carcinogens" are those carcinogens regulated by 29 CFR 1910.1003-1016 and 29 CFR 1926.1103-1116. "OSHA-specific carcinogens" are those that have substance-specific regulations in 29 CFR 1910, Subpart Z (1910.1017 through 1910.1052) and 29 CFR 1926, Subpart Z (1926.1117 through 1926.1152). See Appendix A for lists.

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Occupational exposure to asbestos is outside the scope of this RD (see PRC-RD-SH-15097, *Asbestos Control - Construction Industry*, and PRC-RD-SH-15245, *Asbestos Control - General Industry*). Control of exposure to ionizing radiation is also outside the scope of this RD and is governed by applicable radiation protection requirements. Occupational exposure to beryllium reagents and/or beryllium-containing chemicals/chemical products is covered by this RD. However, work involving beryllium contamination is outside the scope of this RD and is covered by DOE-0342, *Hanford Site Chronic Beryllium Disease Prevention Program (CBDPP)*.

This RD applies to "chemicals" as defined in PRC-PRO-SH-10468, *Chemical Management* and does not apply to wastes.

**3.0 IMPLEMENTATION**

This document is effective upon publication.

**4.0 REQUIREMENTS**

**NOTE:** For the tables in this section under the requirement "type" column, "V" means verbatim and "I" means interpreted.

#	REQUIREMENT	TYPE V or I	SOURCE
1.	Line management shall solicit and utilize input from the project/facility Industrial Hygienist to fulfill all additional requirements in this section except requirements 4.4 and 4.11, for which mandatory IH input/involvement is optional.	I	10 CFR 851.23 (a)(3), (a)(7) and (a)(9); 10 CFR 851.27(b)(6); and 10 CFR 851, Appendix A, Item 6(d)
2.	Managers of employees exposed to "OSHA-regulated carcinogens" and "OSHA-specific carcinogens" (as defined in Section 2.0) shall consult the applicable OSHA section and ensure that any additional provisions of the regulation not addressed by this RD are followed, including those that may warrant applicability of the OSHA standards(s) to chemical products containing less than 0.1% of the regulated/specific carcinogen.	I	10 CFR 851.23 (a)(3), (a)(7) and (a)(9); 10 CFR 851.27(b)(6); and 10 CFR 851, Appendix A, Item 6(d)

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#	REQUIREMENT	TYPE V or I	SOURCE
3.	<p>Line management shall ensure that all chemicals or chemical products meeting the definition of "occupational carcinogen" specified in Section 2.0, are identified prior to purchase, as per the requirements of PRC-RD-SH-13299, or, for laboratory operations, as per the requirements of the applicable laboratory-specific <i>Chemical Hygiene Plan</i>.</p> <p><b>NOTE:</b> <i>The product MSDS should be used as the primary source for chemical or chemical product carcinogen constituent information unless the facility health and safety professional deems the MSDS information of questionable value for carcinogen identification purposes due to age, format or other reasons.</i></p>	I	<p>10 CFR 851.23 (a)(3), (a)(7) and (a)(9); 10 CFR 851.27(b)(6); and 10 CFR 851, Appendix A, Item 6(d)</p>
4.	<p>Line management shall ensure that appropriate non-carcinogenic substitutes are evaluated for carcinogen products proposed for acquisition and that the evaluation results are documented on the <i>Carcinogen Control Program Documentation Form</i> (Site Form A-6004-685) (see requirement 5, below).</p>	I	<p>10 CFR 851.23 (a)(3), (a)(7) and (a)(9); 10 CFR 851.27(b)(6); and 10 CFR 851, Appendix A, Item 6(d)</p>
5.	<p>All facilities that store or use occupational carcinogens shall keep a current carcinogen inventory, and have it readily available. The inventory shall include the following:</p> <ul style="list-style-type: none"> <li>• Carcinogen product name (as referenced on the MSDS and/or on the chemical container).</li> <li>• MSDS number.</li> <li>• CAS (Chemical Abstract Services) number.</li> <li>• Storage location.</li> </ul> <p><b>NOTE:</b> <i>Chemical inventories maintained for other purposes or to comply with other requirements (e.g. Chemical Management, Hazard Communication) are adequate to meet this requirement if all of the specified information is present.</i></p>	I	<p>10 CFR 851.23 (a)(3), (a)(7) and (a)(9); 10 CFR 851.27(b)(6); and 10 CFR 851, Appendix A, Item 6(d)</p>
6.	<p>Line management shall ensure that Site Form A-6004-685 is completed for each occupational carcinogen on the current chemical inventory and retained/maintained by the facility Occupational Safety &amp; Industrial Hygiene (OS&amp;IH) professional and/or the facility OS&amp;IH manager.</p>	I	<p>10 CFR 851.23 (a)(3), (a)(7) and (a)(9); 10 CFR 851.27(b)(6); and 10 CFR 851, Appendix A, Item 6(d)</p>

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#	REQUIREMENT	TYPE V or I	SOURCE
7.	Line management shall ensure that the potential for employee exposure is assessed for each occupational carcinogen on the current carcinogen inventory. Assessments shall be qualitative, as a minimum and quantitative when qualitative assessments are inadequate to characterize exposure or indicate that exposures may be above the administrative control limits.	I	10 CFR 851.23 (a)(3), (a)(7) and (a)(9); 10 CFR 851.27(b)(6); and 10 CFR 851, Appendix A, Item 6(d)
8.	All exposure assessments shall be documented on Site Form A-6004-685. Assessments shall be reviewed/updated whenever a process/use change dictates.	I	10 CFR 851.23 (a)(3), (a)(7) and (a)(9); 10 CFR 851.27(b)(6); and 10 CFR 851, Appendix A, Item 6(d)
9.	Regulated areas must be established where "OSHA-regulated carcinogens" are used or where "OSHA-specific carcinogen" uses result in exposure greater than the Permissible Exposure Limit (PEL) or the Short Term Exposure Limit (STEL). The manager responsible for regulated work areas shall consult the facility OS&IH professional to assist in determining exposure potential and the need for monitoring and controls.	I	10 CFR 851.23 (a)(3), (a)(7) and (a)(9); 10 CFR 851.27(b)(6); and 10 CFR 851, Appendix A, Item 6(d)
10.	Engineering controls shall be used to minimize employee exposure to the lowest feasible extent, particularly when exposure evaluations indicate that employee exposures are, or may reasonably be expected to be, above the administrative control limit.	I	10 CFR 851.23 (a)(3), (a)(7) and (a)(9); 10 CFR 851.27(b)(6); and 10 CFR 851, Appendix A, Item 6(d)
11.	Engineering controls used to control employee exposure to occupational carcinogens shall be documented on Site Form A-6004-685, and use effectiveness shall be re-evaluated whenever process/use changes dictate.	I	10 CFR 851.23 (a)(3), (a)(7) and (a)(9); 10 CFR 851.27(b)(6); and 10 CFR 851, Appendix A, Item 6(d)

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12.	When engineering and/or administrative controls are not feasible or effective to reduce employee exposures to the lowest feasible extent, respiratory protection shall be utilized, subject to the procedures and requirements specified in PRC-PRO-SH-120, <i>Respiratory Protection Program</i> .	I	10 CFR 851.23 (a)(3), (a)(7) and (a)(9); 10 CFR 851.27(b)(6); and 10 CFR 851, Appendix A, Item 6(d)
13.	Filtering face-piece respirators (dust mask) shall not be selected as respiratory protection for occupational carcinogen control, as specified in PRC-PRO-SH-120, sections 5.14.2.b and 5.15.16.	I	10 CFR 851.23 (a)(3), (a)(7) and (a)(9); 10 CFR 851.27(b)(6); and 10 CFR 851, Appendix A, Item 6(d)
14.	<p>A label designating the chemical or chemical product as a carcinogen shall be present on occupational carcinogens except those for which it can be demonstrated that there is no credible exposure potential to the carcinogenic component(s) of the product.</p> <p><b>NOTE:</b> <i>Manufacturers labels and/or Hanford Hazard labels are adequate to meet this requirement as long as they clearly designate the chemical/product as a "carcinogen." Specific carcinogen labels are available from a number of sources, including the CSI Sign shop in the 274-E building in 200E. The identification number for the label is 2W810026.1 and the POC can be reached at 373-5682 (or backup POC at 376-5277).</i></p>	I	10 CFR 851.23 (a)(3), (a)(7) and (a)(9); 10 CFR 851.27(b)(6); and 10 CFR 851, Appendix A, Item 6(d)



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#	REQUIREMENT	TYPE V or I	SOURCE
15.	<p>Line management shall ensure that employees who have been deemed, as a result of the exposure assessments required by requirements statement 4.6, above, to have credible exposure risk(s) to occupational carcinogens are provided with documented training, appropriate for the use situations/ locations where the exposure(s) could occur. The instruction shall include:</p> <ul style="list-style-type: none"> <li>• Identity of occupational carcinogens to which the employee is exposed.</li> <li>• Specific use circumstances of each carcinogen.</li> <li>• Possible source of exposure, health effects.</li> <li>• Handling procedures.</li> <li>• Potential hazardous conditions.</li> <li>• Decontamination procedures, proper disposal.</li> <li>• Emergency procedures, including spills.</li> <li>• Medical Surveillance requirements.</li> </ul> <p><b>NOTE:</b> <i>Hazard Communication facility-specific training or other training venues may be utilized to satisfy this requirement as long as all content specified above is included.</i></p>	I	<p>10 CFR 851.23 (a)(3), (a)(7) and (a)(9); 10 CFR 851.27(b)(6); and 10 CFR 851, Appendix A, Item 6(d)</p>
16.	<p>To ensure initial and continuing medical surveillance where required, line management shall ensure that an Employee Job Task Analysis (EJTA) is completed for employees exposed to occupational carcinogens, is updated as necessary to accurately reflect occupational carcinogen exposure(s), is appropriately reviewed and is submitted to the site Occupational Medicine Provider.</p>	I	<p>10CFR 851.23 (a)(3), (a)(7) and (a)(9); 10 CFR 851.27(b)(6); and 10 CFR 851, Appendix A, Item 6(d)</p>

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**5.0 FORMS**

*Carcinogen Control Program Documentation (Site Form A-6004-685)*

**6.0 RECORD IDENTIFICATION**

All records are generated, processed, and maintained in accordance with PRC-PRO-IRM-10588, *Records Management Processes*.

**Records Capture Table**

Name of Document	Submittal Responsibility	Retention Responsibility
<i>Carcinogen Control Program Documentation Form (A-6004-685)</i> (see requirements statements in steps <a href="#">4.3</a> , <a href="#">4.5</a> , <a href="#">4.7</a> and <a href="#">4.10</a> , above)	Line management	Facility OS&IH and/or facility OS&IH manager (see requirement <a href="#">step 4.5</a> , above)

**7.0 SOURCES****7.1 Requirements**

10 CFR 851, *Worker Safety and Health Program*  
29 CFR 1910, Subpart Z, *Toxic and Hazardous Substances* (various sections --see Appendix A)  
29 CFR 1910.1200, *Hazard Communication*  
29 CFR 1926, Subpart D, *Occupational Health and Environmental Control* (various sections -- see Appendix A)  
29 CFR 1926, Subpart Z, *Toxic and Hazardous Substances* (various sections -- see Appendix-A)  
PRC-MP-SH-32219, 10 CFR 851 *CHPRC Worker Safety and Health Program Description*

**7.2 References**

DOE-0342, *Hanford Site Chronic Beryllium Disease Prevention Program (CBDPP)*  
PRC-MP-SH-40015, *Chemical Management Plan*  
PRC-PRO-IRM-10588, *Records Management Processes*  
PRC-PRO-SH-10468, *Chemical Management Process*  
PRC-PRO-SH-120, *Respiratory Protection Program*  
PRC-RD-SH-15097, *Asbestos Control - Construction Industry*  
PRC-RD-SH-15245, *Asbestos Control - General Industry*  
PRC-RD-SH-13299, *Hazard Communication*

**8.0 APPENDIXES**

Appendix A - "OSHA-Regulated Carcinogens" and "OSHA-Specific Carcinogens" Lists

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29 CFR 1910.1003 / 29 CFR 1926.1103.....	4-Nitrobiphenyl
29 CFR 1910.1004 / 29 CFR 1926.1104.....	alpha-Naphthylamine
29 CFR 1910.1006 / 29 CFR 1926.1106.....	Methyl Chloromethyl Ether
29 CFR 1910.1007 / 29 CFR 1926.1107.....	3,3-Dichlorobenzidine, Salts
29 CFR 1910.1008 / 29 CFR 1926.1108.....	bis-Chloromethyl Ether
29 CFR 1910.1009 / 29 CFR 1926.1109.....	beta-Naphthylamine
29 CFR 1910.1010 / 29 CFR 1926.1110.....	Benzidine
29 CFR 1910.1011 / 29 CFR 1926.1111.....	4-Aminodiphenyl
29 CFR 1910.1012 / 29 CFR 1926.1112.....	Ethyleneimine
29 CFR 1910.1013 / 29 CFR 1926.1113.....	beta-Propiolactone
29 CFR 1910.1014 / 29 CFR 1926.1114.....	2-Acetylaminofluorene
29 CFR 1910.1015 / 29 CFR 1926.1115.....	4-Dimethylaminoazobenzene
29 CFR 1910.1016 / 29 CFR 1926.1116.....	N-Nitrosodimethylamine

**OSHA-Specific Carcinogens**

29 CFR 1910.1017 / 29 CFR 1926.1117.....	Vinyl Chloride
29 CFR 1910.1018 / 29 CFR 1926.1118.....	Arsenic
29 CFR 1910.1026/ 29CFR 1926.1126.....	Chromium (VI)
29 CFR 1910.1027 / 29 CFR 1926.1127.....	Cadmium
29 CFR 1910.1028 / 29 CFR 1926.1128.....	Benzene
29 CFR 1910.1044 / 29 CFR 1926.1144.....	1,2 Dibromo-3-Chloropropane
29 CFR 1910.1045 / 29 CFR 1926.1145.....	Acrylonitrile
29 CFR 1910.1047 / 29 CFR 1926.1147.....	Ethylene Oxide
29 CFR 1910.1048 / 29 CFR 1926.1148.....	Formaldehyde
29 CFR 1910.1050 / 29 CFR 1926.60.....	Methylenedianiline
29 CFR 1910.1051.....	1,3-Butadiene
29 CFR 1910.1052 / 29 CFR 1926.1152.....	Methylene Chloride